Amendments to the Claims:

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

1.   (Currently amended) A multiport switch comprising:

a plurality of receive ports, the receive ports receiving frames in a packet-switched network, the frames having a source field indicating the source of the frame and a destination field indicating an intended destination for the frame;

a plurality of transmit ports, the transmit ports configured to transmit the frames in the packet-switched network; and

an internal rules checking circuit coupled to the receive ports and configured to determine frame forwarding information for the received frames, the internal rules checking circuit including a plurality of address lookup tables, each of the address lookup tables including a plurality of addressable table entries for storing information relating to the frames, each of the addressable table entries including at least a vector field that identifies ports corresponding to the frames of the addressable table entries and an address field that identifies network addresses of the frames, the internal rules checking <u>circuit</u> being further configured to write to the addressable entries of the plurality of address lookup tables such that multiple entries having the same address in the address tables are alternately written to different ones of the plurality of address lookup tables.

2.   (original) The switch of claim 1, wherein the plurality of receive and transmit ports are media access control (MAC) ports in an Ethernet network.

3.   (original) The switch of claim 1, wherein the plurality of address lookup tables includes a first address lookup table and a second address lookup table, the internal rules checker determining the address of the addressable table entries to write to based on a hash value generated using the network address of the frame.

4.   (original) The switch of claim 3, wherein the multiple entries written to the address tables are chained together serially using a pointer field in each addressable table entry.

5.   (original) The switch of claim 4, wherein the internal rules checking circuit includes first and second search circuits that simultaneously search for a desired entry in the first and second address lookup tables, respectively.

6.   (original) The switch of claim 5, wherein the internal rules checking circuit determines the frame forwarding information based on the result of the simultaneous search by the first and second search circuits.

7.   (original) A method of using a lookup table implemented with a first lookup sub-table and a second lookup sub-table, the method comprising:

calculating a row address of the lookup table based on a hash value of a network address associated with an entry in the lookup table;

storing the entry in one of the first sub-table and the second sub-table at the calculated row address by alternately storing multiple entries having identical calculated row addresses in the first and second sub-tables; and

accessing the entries stored in the lookup table by simultaneously reading entries stored at a desired address in the first and second sub-tables.

8.   (original) The method of claim 7, wherein storing the entry further includes:

creating a chain of entries beginning at the calculated row address.

9.   (original) The method of claim 8, wherein the chains of entries are implemented as a linked list.

10.   (original) The method of claim 8, wherein the first and second sub-tables are each partitioned into a bin portion and a heap portion, the bin portion storing a first entry in each of the chains of entries and the heap portion storing additional entries in each chain of entries.

11.　(original)　The method of claim 7, wherein calculating the row address based on the hash value further includes:

concatenating the network address with a virtual local area network index to obtain a concatenated value; and

generating the hash value using a hashing function based on the concatenated value.

12.　(original)　The method of claim 7, wherein accessing the entries includes reading a port vector field from one of the entries that matches a frame associated with the desired address.

13.　(original)　The method of claim 12, further comprising generating a frame forwarding descriptor for the frame, the frame forwarding descriptor including information from the port vector field.

14.　(currently amended)　A method of storing information in a lookup table implemented as first and second sub-tables, the method comprising:

calculating a first row address at which the information is to be stored;

determining to store the information in the first sub-table when a previous entry at the first row address was stored in the second sub-table and determining to store the information in the second sub-table when the previous entry at the first row address was stored in the first sub-table ~~determining whether the~~

~~information is to be stored in the first or the second sub-table based on where a~~

~~previous entry at the first row address was stored~~; and

storing the information in the determined sub-table in the first available

entry at the first row address as a table entry.

15. (original) The method of claim 14, wherein the information is

information relating to a data frame transmitted in an Ethernet network.

16. (original) The method of claim 15, wherein the first row address is

calculated based on hash value of a network address of the data frame.

17. (original) The method of claim 14, wherein storing the information in

the determined sub-table includes storing multiple table entries in a link list

structure, each of the multiple entries of each of the link list structures being in

the same one of the first and second sub-table and having the same calculated

row address.

18. (canceled)

19. (original) A multiport switch comprising:

a plurality of receive ports configured to receive frames, the frames

including a source address and a destination address;

a plurality of transmit ports configured to transmit the frames to the respective destination addresses;

a plurality of address tables including a plurality of addressable table entries, each addressable table entry storing frame forwarding information for one of the received frames; and

a logic device configured to alternately write addressable table entries for a particular table address to the plurality of address tables, and simultaneously search the plurality of address tables to identify the frame forwarding information for the received frames.

20.   (original) The multiport switch of claim 19, wherein the plurality of receive and transmit ports are media access control (MAC) ports in an Ethernet network.

21.   (original) The multiport switch of claim 19, wherein the plurality of address tables includes a first address table and a second address table, the logic device determining the address of the addressable table entries to write to based on a hash value generated using the network address of the frames.